Table 3 shows readmission rates for selected principal discharge diagnosis groups, and there is substantial variation here. If a patient were admitted twice to the same hospital with the principal diagnosis in a different group each time, this would **not** be counted as a readmission in Table 3, unlike in the previous tables. One can see that for malignant neoplasms, nearly one-third of the 1980 admissions are readmissions to the same hospital, while for perinatal problems the percent is only 1.8. In this latter diagnosis group there could be a relatively large proportion of deaths after the first admission, which could help explain the low rate. Overall, only about 2 percent of discharges are deaths, so this should not lower the readmission rate appreciably for most diagnosis groups.

Table 3

1980 N.C. Hospital Readmission Rates by Principal Diagnosis Group*

(Normal Newborns Excluded)

Group	ICD-9-CM Codes	Readmission Rate
Malignant Neoplasms	140-208	30.1
Diseases of the Blood	280-289	18.6
Diseases of Circulatory System	390-459	15.8
Mental Disorders	290-319	14.6
Congenital Anomalies	740-759	11.5
Diseases of Respiratory System	460-519	11.4
Endocrine, Nutritional, Metabolic Diseases	240-279	10.4
Complications of Pregnancy	630-676	9.3
Diseases of Genitourinary System	580-629	8.2
Diseases of Digestive System	520-579	8.0
Diseases of Musculoskeletal System	710-739	7.8
Diseases of Nervous System	320-389	7.7
Diseases of the Skin	680-709	5.7
Benign and Unspecified Neoplasms	210-239	5.1
Symptoms, Signs, and Ill-Defined Conditions	780-799	4.7
Accidents, Poisoning, and Violence	800-999	4.2
Infectious and Parasitic Diseases	001-139	2.6
Certain Perinatal Problems	760-779	1.8

*Readmissions by a patient to same hospital with same **principal diagnosis** group are counted, as a percent of total admissions for that principal diagnosis. Based on data from 49 N.C. hospitals in our data base whose patient numbering systems allow for unique patient identification.

Discussion

Other studies also show readmission rates in the range of 20 percent. The Capital Area (N.C.) Professional Standards Review Organization (PSRO) calculated in 1980 that 22 percent of federal hospital admissions in their area over the course of a year were readmissions by the same person, though this varied from 10 to 45 percent for individual hospitals (*2*). Watts and Acheson (*5*) found in 1967 in Oxford, England that the average readmission rate for the nineteen diagnoses that they examined was 24 percent, though for cancer of the cervix over half of the hospital admissions during a year were readmissions of the same person for the same diagnosis. This English study did, however, consider readmissions across different hospitals and would therefore be expected to show a higher readmission rate than the present report. A recent study of multiple hospitalization in Missouri (*4*) showed an overall 1976 rate of readmission to the same hospital of only 8.2 percent, though this was based on discharge data for just 14 hospitals.

The readmission rates shown here could be applied to other hospital discharge data sets that do not contain patient identification numbers in order to estimate the number of **persons** represented by the discharges for a given diagnosis. It should be noted again, however, that only readmissions to the same hospital are counted, and therefore the actual readmission rates will be understated. Also, morbidity rates for persons that are hospitalized for a certain condition may be a poor indicator of the prevalence of morbidity in the general population, except for those diseases where virtually all patients with the disease require hospitalization during a year.

The data presented here should be used for general guidance in understanding the relationship between the number of hospitalizations and the number of persons hospitalized. These results indicate that for some diagnosis groups hospital discharge data that contain both first admissions and readmissions can provide an adequate measure of the number of persons involved, while for other diagnosis groups where the readmission rate is high the hospital discharge records may not be sufficient for person-oriented epidemiologic studies.

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